The National Oceanic and Atmospheric Administration (NOAA) anticipates acquiring a High Performance Computing System (HPCS) that will enhance the computing capabilities within NOAA. This enhanced computational capability will replace one of NOAA's current HPCS platforms housed at the Forecast Systems Laboratory (FSL) in Boulder, Colorado. The replacement system will be known as the NOAA High Performance Computing System for Research Applications (NHRA) and will provide a primary resource needed to carry out NOAA's research mission. Increased computational power is essential for NOAA to meet its strategic goals related to weather, air quality, climate forecasting, coastal and ocean resource management and National commerce support, thereby providing improved service to the Public.

In order to fulfill the objective of acquiring the NHRA in FY2004, NOAA will use the Department of Commerce's re-engineered acquisition process referred to as "Consolidated Operations" or CONOPS, described in "Department of Commerce Acquisition Process Case for Change" (available from the CONOPS home page located at http://oamweb.osec.doc.gov/conops). An NHRA acquisition team ("the Team") has been formed within the Department of Commerce, and a Project Agreement has been drafted between the team and management to spell out the objectives, milestones, approach, budget and resources available for the project. The Draft Project Agreement and associated documents describing this project are available on the Internet at the project web site (http://nhra.fsl.noaa.gov/). Interested parties should continue to monitor this web site for additional information concerning this project.

NOAA is seeking varied concepts and innovative approaches to obtain the needed computing system within the time frame and budget allocated. Publishing of the Draft Project Agreement is intended to provide the high-performance computer industry a general overview of the requirements, time frames and budget, as well as to open a formal communication channel between industry and the Team. The Team also has a draft Statement of Need (SON) on the Project web site, with information on how to obtain initial benchmark codes. The Team welcomes industry comments, questions and suggestions, which will aid them in developing its acquisition strategy and finalizing the SON.

The team will consider input received in response to this RFI as it continues to develop the SON and the Request for Proposals (RFP). The Team does not anticipate the need for a pre-proposal conference, but if one is deemed necessary, information will be posted on the Project web site. The Team may conduct one-on-one communications in an effort to benefit fully from industry responses to this RFI.

Parties interested in providing information which the Team may use in developing the Government's technical or acquisition approach should review carefully the Draft Project Agreement and supporting documents referenced in the draft Statement of Need that is available on the Internet at the Project web site (http://nhra.fsl.noaa.gov/).

One of the purposes of this RFI is to provide vendors with initial benchmark codes that will give an indication of the type of programs that may be expected to run on NOAA's new NHRA. A complete list of the major models and the schedule that must be maintained is available on the Internet at the Project web site (http://nhra.fsl.noaa.gov/). Instructions for obtaining the benchmark codes are available on the Internet at the Project web site. The Team requests that vendors submit their benchmark test results with their RFI response. This will give NOAA an

indication of the performance capabilities of their recommended computing resources. One of the principal outcomes of vendor/Government dialog will be to ensure that viable approaches are considered during the competition. The Government may therefore utilize the information provided to design its acquisition strategy to take into account viable acquisition alternatives.

In addition to using the information provided by vendors to assist in its acquisition strategy, the team may also use the information to determine which vendors do not appear to be viable candidates for the eventual award of a contract. Those vendors may be contacted and informed that it does not appear to be in their best interests to compete for the NOAA contract. However, if those vendors choose to remain in the competition and later submit proposals, the team will not be prejudiced by its initial determination. Any vendor that requests, will receive a written or oral explanation of the team's initial determination as it pertains to that vendor.

It is not the Government's intent to disclose vendor proprietary information and trade secrets to the public. The information submitted by vendors during the pre-solicitation period may be used by the Government in preparing its RFP and finalizing the SON, provided this can be done without disclosing proprietary vendor information that is protected from disclosure pursuant to the Freedom of Information Act and other laws and regulations.

The Government intends to entertain separate proposals for the Mass Store System (MSS) and the computational platform. Interested vendors should respond in writing to the following topics (vendors who submit written responses will be invited to augment their written responses with a 2-hour oral presentation in November/December 2003.)

(a) Indicate if their response is for the Mass Store System or the computational platform or both.

(b) A description of a NHRA that meets or exceeds NOAA requirements while remaining within the estimated budget. The description must address how the proposed system will meet NOAA's requirements as illustrated by the benchmark codes.

Probable Budget By Year					
YEAR	04	05	06	07	08
MSS	$2.5M	$0.5M	$0.5M	$0.5M	$0.5M
Computational Platform	$0.5M	$2.5M	$2.5M	$2.5M	$2.5M

(c) An upgrade plan (including business and technical approach) of how the Government will benefit during the life cycle of this acquisition. The following topics should be addressed:

(1) A technology roadmap and how it relates to the length of the contract and the frequency of upgrades.

(2) Potential architectural transitions through initial installation and across upgrades.

(d) A description of the services, which will be provided to maintain the NHRA and/or the MSS over its proposed 5-year life.

(e) Potential financing alternatives to include a straight purchase for the MSS and/or an operational lease for the computational platform, and rough cost estimates for the alternatives, broken down by hardware, software, and services, and any other associated costs. It is the intent of NOAA to acquire the NHRA via a contractual arrangement satisfying the following conditions:

(1) The payments for system acquisition are expected to extend over 5 fiscal years (2004-2008) and may conclude with the system belonging to the vendor. The MSS could be purchased outright using a subset of the 2004 and 2005 funds.

(2) The intended life-cycle for the system is 5 years.

(3) If the Government owns the system at the conclusion of its intended life, the system could be operated longer than is now planned, at the option of the Government.

(4) If a vendor recommends straight leasing, the vendor must demonstrate the Government's benefit in not owning the equipment at the end of the project life cycle.

(f) A description of the vendor's qualifications for providing the NHRA (including the extent of subcontracting) and past experience in providing relevant computational capabilities.

(g) If relevant, the vendor should address the SCO v. IBM lawsuit and how possible outcomes may affect the viability and cost of systems software that may be offered.

(h) Benchmarks

(1) The vendor should attempt to compile and run the initial benchmark codes, compare the vendor's results with NOAA's results, and keep a record of the time required to run the code. FSL expects to receive two sets of timings and results: those from (1) the code essentially unmodified and (2) an optimized code. For purposes of this RFI, essentially unmodified means that the Fortran applications are untouched, but modifications to the internals of the software system known as SMS, and other communications packages utilized within the benchmarks, may be extensive provided the Fortran subroutine interfaces and the associated semantics are unchanged. Any modifications to the code should be thoroughly documented. If a benchmark simply cannot be run essentially unmodified, the vendor should inform NOAA through the web page to initiate a dialogue regarding that benchmark code. It is not critical at this point for the vendor to try to fully optimize performance on the benchmarks during this RFI phase. NOAA only requests timings to establish a basis for dialogue and a better overall market picture. All results and timings, which the vendor reports, will be kept in complete confidence.

(2) Initial benchmarks are provided that test computational capability and the ability to analyze data. The initial computational benchmarks are the RUC-20, RUC-13, WRF, WRF-Chem, LAPS-MM5, GFS and ROMS models and the data analysis application associated with each model. The benchmarks may be acquired by following the instructions on the Project web site (http://nhra.fsl.noaa.gov/T). There are instructions on how to run each benchmark, as well as how to determine if a run is successful.

(3) The vendor is requested to provide results on running the benchmarks. Precisely what should be provided is included in the Draft Statement of Need and other documents available on the Project web site.

(4) The vendor should report the time required to get the benchmarks operating properly.

(i) A performance-based contractor incentive plan.

The vendor's submission should reflect an understanding of NOAA's requirements for product delivery and an overall approach to providing the required capabilities. Multiple or alternative approaches are welcome. Although this RFI requests specific information, it is not intended to discourage innovative thinking on the part of industry to propose alternative solutions or approaches that the team may not have considered.

Interested parties may also submit comments or suggestions in addition to or in lieu of a written approach. Those comments are welcome, but will not be considered an approach for the purpose of advising vendors as to their viability as candidates for the planned competition or for invitation to a formal oral presentation. For the comments/suggestion submission, the vendor is encouraged to provide any comments or recommendations it may have on technology, acquisition strategy, contractual mechanism or other issues that would assist the team in developing the RFP. The vendor is also encouraged to provide suggestions for inclusion of information in the RFP that would enable the vendor to prepare a complete and accurate proposal.

Vendors responding should provide a point-of-contact, including: representative's name, email address, mailing address, and telephone number.

Written submissions in response to this RFI should not exceed ten (10) pages (including charts and graphs). Benchmark results should be summarized in an attachment to the written RFI response, not to exceed four pages.

Response Format

Please prepare two (2) paper copies (double-sided) and one (1) ISO 9660 CDROM in PDF, formatted for 8.5" by 11" sheets, single-spaced with margins of one (1) inch on all sides. The type for all documents submitted (including charts and graphs) should be black print on white paper, should not exceed twelve (12) characters-per- linear-inch or be smaller than twelve (12) point, and should not exceed six (6) lines-per-vertical-inch. The vendor should include one or more ISO 9660 CDROMs containing the benchmark source code and the textual output from the postprocessors supplied with each benchmark.

Delivery Requirements

The team requests that one (1) paper copy be received as a single package by the Government by 4:00 PM Washington DC local time, on Thursday, November 20, 2003 to the following location:

U.S. Department of Commerce / NOAA
NWS Acquisition Management Division
1305 East-West Highway, Room 7604
Silver Spring, MD 20910-3281
Attn: William Voitk
301-713-0828 x185

The team requests that one (1) paper copy and all CDROMs be received as a single package by the Government by 4:00 PM Mountain Standard Time, on Thursday, November 20, 2003 to the following location:

U.S. Department of Commerce / NOAA
Forecast Systems Laboratory
325 Broadway, Bldg: 33 Room 2B406
Boulder, CO 80305
Attn: Scott Nahman
303-497-5349

Note that vendors need not respond to this RFI as a prerequisite for participating in the acquisition.

The Team will operate a "Questions and Answers" page on the Project web site for vendor questions related to this requirement. Questions should be submitted electronically to this web site. The team will post the vendor questions and Government answers on the Project web site for public viewing, without revealing the source of the questions. If a vendor asks a question that involves proprietary information, the vendor should provide detailed information explaining why the question should be protected from disclosure. Vendor questions designated as proprietary or confidential will be protected from disclosure (except where otherwise required by law and judicial process). The team will attempt to post answers to questions on the project web site within a week of receipt.